

vaguely indicated; base transversely truncate to near middle of each elytron where it is arcuately sinuate, then turning obliquely backward to the scutellum, in front of which it is broadly rounded; surface feebly, broadly depressed along the lateral margins, and the base toward posterior angles finely, densely granulose, and coarsely, sparsely, and irregularly punctate. Scutellum very small and triangular.

Elytra moderately convex, and distinctly wider than pronotum at base; humeral angles broadly rounded; sides nearly parallel to behind middle, then arcuately narrowed to the tips, which are conjointly broadly rounded, with the lateral margins entire; each elytron with a broad, shallow depression along lateral margin, the depression interrupted at the middle by a broad elevation, but without a distinct basal depression; surface somewhat uneven, vaguely rugose, without lateral carinae, and rather densely, coarsely, irregularly punctate, the punctures shallow, and becoming more obsolete toward the apices.

Abdomen beneath coarsely, sparsely, ocellate-punctate, and very sparsely clothed with short, inconspicuous hairs; intervals finely, densely granulose; last segment broadly rounded at apex. Prosternum sparsely, coarsely punctate; anterior margin broadly rounded and feebly declivous; prosternal process broad, slightly expanded behind the coxal cavities, and broadly rounded at apex.

Length, 3 mm.; width, 1.5 mm.

Type locality.—Porto Rico.

Type.—Cat. No. 43139, U. S. National Museum.

Described from a unique specimen collected by W. A. Hoffman and labelled "Porto Rico," without any definite locality.

This species is allied to *guadeloupensis* described by Fleutiaux and Sallé, but differs from that species in being subopaque, uniformly dark bronzy green above, broadly elongate, and not so strongly narrowed posteriorly.

EIGHT NEW SPECIES OF SERPHOIDEA (HYMENOPTERA) FROM BRITISH COLUMBIA.

BY OSCAR WHITTAKER.

The following species are all described from specimens taken in western British Columbia by the writer, in whose collection, except where stated otherwise, all type material remains.

CALLICERATIDAE.

CALLICERAS Nees (= *Ceraphron* Jurine).

Calliceras pacifica, new species.

Female.—Head and thorax black; abdomen brown, basally yellow; antennae with the scape basally brownish-yellow, apically dark brown; pedicel dark brown, apically paler; flagellum brown becoming darker towards apex, the apical three joints black; legs yellow, apex of front femora dorsally brown; apical

joints of tarsi sometimes slightly dusky; wings faintly tinged with brown, tegulae and venation brown, the radius paler. Head transverse, as wide as thorax, one and one-half times as wide as long viewed from above; eyes large, hairy, reaching the occiput which is nearly straight; ocelli in an equilateral triangle, lateral ocelli about as far apart as from the eyes and occiput; vertex and frons shagreened, the latter with a deep depression in front of anterior ocellus which extends as a deep groove to the clypeus; vertex with a groove extending from just behind the anterior ocellus to the occiput and a shallow depression external to the lateral ocelli; facial depression large and deep, smoother than vertex, very finely and somewhat transversely rugulose. Antennae with scape one-half as long as flagellum; pedicel about one and one-half times as long as joint 3; joints 4-6 equally long but becoming distinctly thicker, two-thirds as long as joint 3; joint 7 slightly longer than joint 6; joints 7-9 each slightly longer and considerably thicker than the preceding joint; joint 9 slightly thicker than long; apical joint conic-ovate, twice as long as thick and about as long as joints 3-5 combined. Pronotum very short; mesonotum and scutellum shagreened, the former with a distinct median groove; scutellum elongate, frenal grooves punctate, meeting a short distance from the posterior margin of mesonotum. Head and thorax with short, scattered, pale hairs; propodeum with the posterior angles produced; pleurae smooth. Wings with the radius long, curved. Abdomen polished, longer than the thorax, acutely pointed at the apex, the base emarginate and shortly striate; second tergite somewhat more than twice as long as rest of abdomen.

Length, 1.2-1.3 mm. *Expanse*, 2.1-2.3 mm.

Described from ten specimens taken at Chilliwack on various dates from April to October, 1926-7.

Paratypes sent to U. S. N. M. and Mr. Robert M. Fouts.

Variation.—The basal abdominal band varies a little in brightness and extent and in one example is absent.

APHANOGMUS Thomson.

Aphanogmus subapterus, new species.

Female.—Head and thorax black; scape and pedicel dull yellow, flagellar joints becoming darker from the base, distal joints dark brown; legs, except coxae, yellow; apical joint of front tarsi dusky; abdomen brownish-black. Head very nearly twice as wide as long, wider than the thorax, front and hind margins straight; eyes large, nearly reaching the occiput; ocelli conspicuous, in a triangle, the lateral ocelli about as far apart as from the eyes and further than this from occiput. Vertex rugulose, with a depression before front ocellus; facial depression almost smooth. Antennae subclavate, shorter than the body; scape robust, thickest near base, four times as long as pedicel or about as long as pedicel and joints 3-5 combined; joint 3 slightly longer than pedicel; joints 4 and 5 slightly shorter than pedicel; joints 7 and 8 equal in length to pedicel; joint 9 equal to joint 3, as thick as long; apical joint very nearly twice as long as preceding joint, conic-ovate; basal joints of flagellum basally narrowed, subpedunculate, the apical four joints with a short, distinct, sublateral peduncle. Mesonotum

longitudinally rugulose; scutellum rugulose, extending to posterior face of propodeum, frenum distinct, punctate; scutellum with scattered pale hairs along the side margins. Wings much abbreviated, barely reaching the middle of second tergite. Abdomen highly polished, longer than thorax, basally with short, fine striae and a few pale hairs on the sides, apically acute.

Length, 1.15 mm.

Described from a single female taken at Chilliwack, 13 September, 1927.

Aphanogmus canadensis, new species.

Male.—Black, antennae and legs piceous, scape apically paler; hind coxae, except dorsally, base of all tibiae and all metatarsi sordid yellow, rest of tarsi dusky brown. Head about one and three-quarters as wide as long viewed from above, slightly wider than the thorax. Eyes large, nearly reaching the occiput, which is feebly emarginate. Ocelli conspicuous, in a triangle, the lateral ocelli further apart than from front ocellus or eyes, much nearer to the occiput. Vertex finely reticulate, depressed before front ocellus; frons more finely sculptured; facial depression smooth, with a broad raised area above the base of mandibles, extending upwards toward front ocellus, above this a small, slightly raised tubercle. Antennae slightly longer than the entire body; scape obclavate, as long as joints 3 and 4 combined; pedicel subglobular, about one-third as long as joint 3; joints 3–10 elongate, laterally constricted at base, apically obliquely truncate; joints 4–10 subequal, slightly shorter than joint 3 which is about three times as long as thick; apical joint equal to joint 3, cylindrical, conically pointed at tip; all flagellar joints with sparse, long hairs. Pronotum invisible from above. Mesonotum and scutellum with similar, but coarser, sculpture to the vertex; posterior margin of mesonotum slightly emarginate; scutellum longer than mesonotum, reaching posterior face of propodeum; frenal grooves uniting a considerable distance from base of scutellum. Propodeum with the posterior angles shortly, acutely produced. Wings subhyaline, venation brown, radius almost straight, as long as marginal vein. Abdomen highly polished, shorter than thorax.

Length, 0.97 mm. *Expanse*, 1.8 mm.

Described from two specimens taken at Hollvburn, 8 June, 1928, and 3 July, 1929.

Paratype sent to Mr. Robert M. Fouts.

Aphanogmus obsoletus, new species.

Female.—Black; antennae piceous brown, apex of scape paler; legs piceous brown, apex of front femora, front tibiae and extremities of middle and hind tibiae paler; front tarsi pale brown; middle and hind tarsi yellowish-brown, apical joint of all tarsi dusky. Head about one and one-half times as wide as long, slightly wider than the thorax; eyes large, not reaching the occiput, which is almost straight; ocelli conspicuous, in a triangle; lateral ocelli about as far apart as from the occiput and further than this from the eyes. Vertex shagreened; depressed before front ocellus; facial depression almost smooth, with a rounded

ridge extending from the base of the mandibles almost entirely across the depression. Antennae robust; scape thickest near the base, as long as pedicel and joints 3-5 combined, one-third as long as entire flagellum; pedicel as long as joint 3; joint 3 two and one-half times as long as thick; joints 3-9 subequal in length, gradually becoming thicker, joint 9 only slightly shorter than joint 3, one and one-half times as long as thick; apical joint two and one-half times as long as thick, twice as long as the preceding joint. Thorax one and one-half times as long as wide; pronotum invisible from above, mesonotum and scutellum with the sculpture slightly finer than that of the vertex; frenum distinct, anterior margin of basal lobes of scutellum concave; pleurae smooth; posterior angles of propodeum not produced. Wings subhyaline, with a very faint brownish band across the disc, venation brown, radius wanting. Abdomen highly polished, somewhat shorter than the thorax.

Length, 0.97 mm. *Expanse*, 1.95 mm.

Described from a single specimen taken at Hollyburn, 12 May, 1928.

Aphanogmus dorsalis, new species.

Female.—Head and thorax black; scape and pedicel pale yellow, flagellum grading from pale yellow to light brown in the last four joints; front coxae black, trochanters yellowish-brown; femora, except apically, brown; tibiae and tarsi pale yellow; middle coxae basally black, trochanters and coxae apically yellow; middle femora brown, the extremities paler; middle tibiae and tarsi pale yellow, the tibiae brownish in the middle; hind coxae, except the extreme base which is black, trochanters and femora pale yellow; hind tibiae brown, the extremities paler; hind tarsi pale yellow, the metatarsi pale brown; abdomen ventrally yellow, anterior face of second tergite and a large dorsal area, which reaches a little beyond the middle, also yellow, the rest black. Head and thorax smooth; head one and one-half times as wide as long, wider than thorax; eyes large, almost reaching the occiput, which is nearly straight; ocelli conspicuous, in a triangle, the lateral ocelli about as far apart as from the occiput and further than this from the eyes; facial depression smooth and polished. Antennae slender, subclavate; scape obclavate, as long as pedicel and joints 3 and 4 combined; pedicel and joints 3-9 equal in length but becoming gradually thicker; joint 9 twice as long as thick; apical joint one and one-half times as long as preceding joint. Thorax about one and two-thirds as long as wide; vertex, mesonotum and scutellum with microscopic, reticulate, incised sculpture and scattered pale hairs; scutellum very convex, longer than mesonotum, reaching posterior face of propodeum, with a distinct, punctate frenum and with a long, narrow, smooth field, almost reaching the apex, enclosed by two longitudinal, posteriorly convergent carinae; hind angles of propodeum subacute. Wings subhyaline, with a broad, faint, fumose band across the disc, the apex beyond the radius also faintly fumose; costal and marginal nervures brown; radius pale, straight, longer than marginal nervure. Abdomen highly polished, shorter than thorax, base of second tergite without distinct striae.

Length, 0.9 mm. *Expanse*, 1.8 mm.

Described from three specimens from Hollyburn, 18 June and 3 July, 1928.

Paratype sent to Mr. Robert M. Fouts.

CONOSTIGMUS Dahlbom.

Conostigmus pulchellus, new species.

Male.—Black; scape basally brownish yellow, becoming darker on the apical half; pedicel and flagellum black; legs yellowish brown; front tarsi and apical joints of middle and hind tarsi dusky brown; wings fumose, with a darker cloud on disc below radius; venation and stigma dark brown. Head, viewed from above, twice as wide as long, very slightly wider than thorax, obliquely narrowed behind the eyes, which are remote from the occiput; occiput separated from vertex by a carina which is adjoined by a row of punctures; ocelli in a triangle, the lateral ocelli about as far apart as from the eyes and more than this distance from the occiput, considerably in front of hind margin of eyes; vertex and frons coarsely rugose; frons with a depression before front ocellus and with a median, vertical groove extending from this depression towards the clypeus; facial depression smooth, with a deep central pit. Antennae pubescent, slender, filiform, a little longer than the entire body; scape thicker than flagellum; pedicel short, subglobular; joint 3 the longest, longer than scape, six times as long as thick; joints 4–10 becoming shorter and slightly thinner; joint 10 slightly less than one-half as long as joint 3; apical joint slightly longer than preceding joint. Mesonotum and scutellum alutaceous, the lateral lobes of the former and scutellum less conspicuously so; scutellum as long as mesonotum, frenal lines punctate, meeting at anterior margin of scutellum. Propodeum rugose; pleurae smooth, each with a row of conspicuous punctures. Head and thorax with fairly dense, scattered pale hairs. Wings with the subcostal nervure somewhat swollen before reaching the stigma; stigma twice as long as wide; radius gently curved, one and one-half times as long as stigma. Abdomen elongate-oval, considerably longer than thorax, highly polished, constricted and with a few, longitudinal striae at base; second tergite nearly twice as long as rest of abdomen.

Length, 2.9–3.3 mm. *Expanse*, 4.7–5.6 mm.

Described from four specimens taken at Hollyburn, 18 June, 11 July, 1928; 3 and 30 September, 1929.

DIAPRIIDÆ.

MONELATA Foerster.

Monelata nigra, new species.

Female.—Black, polished; antennae with scape, pedicel and proximal flagellar joints reddish brown; flagellar joints becoming darker distally, the apical three or four joints black; legs pale brown, the swollen parts of femora and tibiae dark brown; coxae black; last joint of all tarsi dusky; wings very faintly fumose, venation brown. Head subglobular, viewed from above a little longer than wide; ocelli in an equilateral triangle, much nearer together than to the eyes

and occiput; sides of occiput with brownish, woolly pubescence. Antennae slightly longer than head and thorax combined, two-thirds as long as entire body; scape as long as pedicel and five following joints combined; flagellum two and one-quarter times as long as scape; pedicel as long as joints 3 and 4 combined; joint 3 about as long as two following joints combined; joints 4-9 about as long as thick; joints 10-12 becoming thicker, joint 12 distinctly transverse; apical joint (club) very large, oval, a little more than twice as long as thick, as long as four preceding joints combined. Pronotum short, sides and dorsum, except in the middle, clothed with woolly pubescence; mesonotum with the hind margin feebly convex; scutellum basally broad, narrowed about one-third from base, beyond this with the sides straight and parallel; hind margin straight, posterior angles rounded; propodeum with a distinct, much raised, median carina, the sides clothed with dense woolly pubescence; propleurae and mesopleurae smooth; metapleurae hairy; petiole surrounded with dense woolly hairs. Abdomen as long as head and thorax combined; second tergite widest near the hind margin, about one and one-half times as long as wide, the base ventrally hairy; remaining abdominal segments very short.

Length, 1.5-1.65 mm. *Expanse*, 2.8-3.0 mm.

Described from twelve specimens taken at Hollyburn on various dates from 9 May to 18 September, 1928-30.

Paratypes sent to U. S. N. M., Dr. A. A. Ogloblin and Mr. Robert M. Fouts.

ACANOSEMA Kieffer.

Acanosema sylvana, new species.

Female (Type).—Head, thorax and petiole black; antennae brown, the three or four distal joints blackish; legs brown, base of hind coxae black; abdomen dark brown, wings strongly tinged with brown, venation and tegulae brown. Head smooth and polished; viewed from above about one and one-half times as wide as long, about as wide as thorax; ocelli in a triangle, lateral ocelli separated by slightly less than their distance from the eyes, much further than this from the occiput; occiput, except in the centre, with a ring of pale, tomentose pubescence. Antennae as long as head, thorax and petiole combined, scape terminating in two short, dentate processes, as long as following five joints combined, a little more than four times as long as pedicel; joint 3 one and one-quarter times as long as pedicel, two and one-half times as long as thick; joints 4-14 about equal to pedicel, gradually increasing in thickness; joint 14 as thick as long; apical joint twice as long as preceding joint, nearly twice as long as thick. Thorax smooth and shining; pronotum clothed with dense, pale, tomentose pubescence; mesonotum with deep, percurrent, posteriorly convergent notauli; scutellum with a very deep basal fovea, the sides and apex with long, pale hairs; propodeum with a broad, much raised median carina, having a fine groove down the centre; propleurae and mesopleurae smooth; metapleurae and base of hind coxae hairy. Petiole wider than long, widest in the middle, without striae, anterior margin straight, much narrowed posteriorly. Wings with first abscissa of radius very short, perpendicular to the marginal nervure which is three and one-half times

as long as first abscissa of radius; second abscissa of radius, cubitus, discoidal, median and brachial nervures present as fuscous streaks; second abscissa of radius very long, enclosing an elongate area more than twice as long as marginal nervure; cubitus straight, directed towards the basal nervure, the extreme apex deflected towards the discoidal nervure. Abdomen highly polished, elongate-oval, apically acute, including petiole one and one-third times as long as head and thorax combined; second tergite one and one-half times as long as wide, about one and three-quarters times as long as remaining segments combined; sides and ventral surface of propodeum, petiole and base of second tergite, except narrowly in the centre of dorsum, with long, pale, woolly hairs.

Length, 4.5 mm. (including ovipositor 5.6 mm.). *Expanse*, 7.0 mm.

Male (Allotype).—Antennae with the scape and pedicel light brown, the flagellum very dark brown, slender, longer than head, thorax and petiole combined; scape twice as long as joint 3; pedicel subglobular; joint 3 excised on basal half, two and one-half times as long as pedicel and slightly longer than joint 4; joints 4–13 gradually shorter; joint 13 about half as long as joint 3 and about one and one-half times as long as thick; apical joint about as long as joint 3. Petiole nearly one and one-half times as long as wide, smooth, the sides convex, constricted at base, without distinct striations. Abdomen elongate-oval, including petiole as long as head and thorax combined; second tergite about one and one-half times as long as wide; following segments to the sixth successively shorter. In other characters agrees with the female. The proportions of the petiole vary to some extent, some examples having it nearly as wide as long. The color varies slightly in depth and one specimen has the petiole dark brown like the abdomen. The second abscissa of the radius sometimes fails to quite reach the costal margin of the forewing.

Length, 3.0–4.2 mm. *Expanse*, 6.0–8.0 mm.

Described from a single female taken on 27 August, 1930, and twelve males on various dates from 5 July to 2 October, 1928–9; all from Hollyburn.

Paratypes sent to U. S. N. M., Dr. A. A. Ogloblin and Mr. Robert M. Fouts.

EPIBLEMA STRENUANA WALK., THE HOST OF CERTAIN PARASITES OF THE ORIENTAL FRUIT MOTH, LASPEYRESIA MOLESTA BUSCK (LEPIDOPTERA).

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One of the interesting new developments in the study of the parasites of the oriental fruit moth is the discovery that a common and widely distributed borer (*Epiblema strenuana* Walk.), the larvae of which occur in the stems of ragweed (*Ambrosia artemisiaefolia*), serves as an alternate host for several of the more important parasites of the oriental fruit moth.